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Jaap Andre Haitzma

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EXAMINER

SCHWARTZ, DARREN B

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/529,360	<b>Applicant(s)</b> HAITSMA, JAAP ANDRE	
	<b>Examiner</b> DARREN SCHWARTZ	<b>Art Unit</b> 2435	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03-11-09</u>  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant cancels claim 7 and amends claims 1-6, 8-9 and 11-12.

Claims 1-6 and 8-12 are presented for examination.

### ***Response to Arguments***

1. In light of the amendments to the specification, the objection is withdrawn.
2. In light of the cancelled claim, the rejection under 35 U.S.C. 101 is withdrawn.
3. In light of the cancelled claim, the rejection under 35 U.S.C. 112, first paragraph, is withdrawn.

Applicant's arguments with respect to claims 1-6 and 8-12 have been considered but are moot in view of the new ground(s) of rejection, however, the Examiner will address an issue raised by applicant.

4. Applicant argues on page 6 of REMARKS, that Seok is not concerned with deriving a binary sequence constituting a fingerprint of a media signal.

In response to applicant's argument, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Applicant argues the "operation of 'representing the results of said comparisons by respective bits of the fingerprint' is meaningless in the context of Seok."

In response to applicant's argument, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Additionally, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Seok is directed to the embedding, extraction and validation of protected content.

The fact that the Examiner may not have specifically responded to any particular arguments made by Applicant and Applicant's Representative, should not be construed as indicating Examiner's agreement therewith.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al (U.S. Pat 5999637 A), hereinafter referred to as Toyoda, in view of Seok et al (U.S. Pat Pub 2002/0078359 A1), hereinafter referred to as Seok.

Re claim 1: Toyoda teaches a method of extracting a fingerprint from a media signal, the method comprising:

extracting a fingerprint from a media signal a sequence of samples of a given perceptual property of the signal (col 6, line 56 – col 7, line 2; col 8, lines 5-7),

subjecting the sequence of samples to an auto-correlation function to obtain a sequence of auto-correlation values (col 7, lines 36-58; col 12, lines 8-15);

comparing auto-correlation values from the sequence of auto-correlation values with respective thresholds (col 6, lines 41-44; col 9, lines 42-52; Fig 5A; col 16, lines 12-15);

Seok teaches representing the results of said comparisons by respective bits of the fingerprint (Fig 3, elt 204: ¶32; *“Thereafter, if the sign is positive, an output value becomes 1 and if the sign is negative, the output value becomes 0. Subsequently, the resultant out value, i.e. 0 or 1, is inputted into the error correction decoder 205;”* Fig 3, elts 204, 205 & “COPYRIGHT INFORMATION;” ¶32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Toyoda with the teachings of Seok, for the purpose of embedding a watermark that does not degrade nor deteriorate digital audio data.

Re claim 6: Toyoda teaches an apparatus for extracting a fingerprint from a media signal, the method comprising:

means for deriving from said media signal a sequence of samples of a given perceptual property of the signal col 6, line 56 – col 7, line 2; col 8, lines 5-7),

means for subjecting the sequence of samples to an auto-correlation function to obtain a sequence of auto-correlation values (col 7, lines 36-58; col 12, lines 8-15);

means for comparing auto-correlation values from the sequence of auto-correlation values with respective thresholds (col 6, lines 41-44; col 9, lines 42-52; Fig 5A; col 16, lines 12-15);

Seok teaches means for representing the results of said comparisons by respective bits of the fingerprint (Fig 3, elt 204: ¶32; *“Thereafter, if the sign is positive, an output value becomes 1 and if the sign is negative, the output value becomes 0. Subsequently, the resultant out value, i.e. 0 or 1, is inputted into the error correction decoder 205;”* Fig 3, elts 204, 205 & “COPYRIGHT INFORMATION;” ¶32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Toyoda with the teachings of Seok, for the purpose of embedding a watermark that does not degrade nor deteriorate digital audio data.

Re claim 8: Toyoda teaches a system for extracting a fingerprint from a media signal, the system comprising:

a sampler to extract from said media signal a sequence of samples of a given perceptual property of the signal (col 6, line 56 – col 7, line 2; col 8, lines 5-7),

an auto-correlator to subject the sequence of samples to an auto-correlation function to obtain a sequence of auto-correlation values (col 7, lines 36-58; col 12, lines 8-15); and a comparator to: compare auto-correlation values from the sequence of auto-

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correlation values with respective thresholds (col 6, lines 41-44; col 9, lines 42-52; Fig 5A; col 16, lines 12-15).

Seok teaches represent the results of said comparisons by respective bits of the fingerprint (Fig 3, elt 204: ¶32; *“Thereafter, if the sign is positive, an output value becomes 1 and if the sign is negative, the output value becomes 0. Subsequently, the resultant out value, i.e. 0 or 1, is inputted into the error correction decoder 205;”* Fig 3, elts 204, 205 & “COPYRIGHT INFORMATION;” ¶32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Toyoda with the teachings of Seok, for the purpose of embedding a watermark that does not degrade nor deteriorate digital audio data.

6. Claims 2, 3, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al (U.S. Pat 5999637 A), hereinafter referred to as Toyoda, in view of Seok et al (U.S. Pat Pub 2002/0078359 A1), hereinafter referred to as Seok, in further view of Hannigan et al. (U.S. Pat 6674876 B1), hereinafter referred to as Hannigan.

Re claim 2: The combination of Toyoda and Seok teaches all the limitations of claim 1 as previously discussed.

However, Hannigan teaches subjecting the sequence of samples to an auto-correlation function comprises correlating a sub-sequence of property samples with the complete sequence of property samples (Hannigan: col 9, lines 28-37; col 10, lines 38-43; col 14, lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Toyoda and Seok with the teachings of Hannigan, for the purpose of generating a watermark that is more robust and less perceptual.

Re claim 3: The combination of Toyoda and Seok teaches all the limitations of claim 1 as previously discussed.

However, Hannigan teach said step of subjecting the sequence of samples to an auto-correlation function further includes down-sampling the sequence of auto-correlation values to obtain a desired number of auto-correlation values (Hannigan: col 9, lines 28-37; col 10, lines 38-43; col 14, lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Toyoda and Seok with the teachings of Hannigan, for the purpose of generating a watermark that is more robust and less perceptual.

Re claim 9: The combination of Toyoda and Seok teaches all the limitations of claim 8 as previously discussed.

However, Hannigan teaches the auto-correlator is to correlate a sub-sequence of the sequence of samples with the sequence of samples (Hannigan: col 9, lines 28-37; col 10, lines 38-43; col 14, lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Toyoda and Seok with the

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teachings of Hannigan, for the purpose of generating a watermark that is more robust and less perceptual.

Re claim 10: The combination of Toyoda and Seok teaches all the limitations of claim 8 as previously discussed.

However, Hannigan teaches the auto-correlator is to down-sample the sequence of auto-correlation values to obtain a desired number of auto-correlation values (Hannigan: col 9, lines 28-37; col 10, lines 38-43; col 14, lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Toyoda and Seok with the teachings of Hannigan, for the purpose of generating a watermark that is more robust and less perceptual.

7. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al (U.S. Pat 5999637 A), hereinafter referred to as Toyoda, in view of Seok et al (U.S. Pat Pub 2002/0078359 A1), hereinafter referred to as Seok, in further view of Kenyon et al (U.S. Pat Pub 2002/0023020 A1), hereinafter referred to as Kenyon.

Re claim 4: The combination of Toyoda and Seok teaches all the limitations of claim 1 as previously discussed.

However, Kenyon teaches said deriving from said media signal a sequence of perceptual property values comprises dividing an audio signal into sub-bands and computing the energies of said audio sub-bands (¶41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Toyoda and Seok references to divide an audio signal into sub-bands and compute the energies of the audio sub-bands, as taught by Kenyon, for the purpose of easily recognizing media stored in a database (see Kenyon: ¶39).

Re claim 11: The combination of Toyoda and Seok teaches all the limitations of claim 8 as previously discussed.

However, Kenyon teaches the sampler is to divide an audio signal into audio sub-bands and to compute the energies of said audio sub-bands (¶41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Toyoda and Seok references to divide an audio signal into sub-bands and compute the energies of the audio sub-bands, as taught by Kenyon, for the purpose of easily recognizing media stored in a database (see Kenyon: ¶39).

8. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al (U.S. Pat 5999637 A), hereinafter referred to as Toyoda, in view of Seok et al (U.S. Pat Pub 2002/0078359 A1), hereinafter referred to as Seok, in further view of Hobson et al (U.S. Pat 6633653 B1), hereinafter referred to as Hobson.

Re claim 5: The combination of Toyoda and Seok teaches all the limitations of claim 1 as previously discussed.

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However, Hobson teaches said deriving from said media signal a sequence of perceptual properties comprises dividing an image into blocks and computing the luminances of said image blocks (col 2, line 64 - col 3, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Toyoda and Seok references to divide an image into blocks and compute the luminances of said image blocks, as taught by Hobson, for the purpose of providing image watermarking and easy recovery of watermarked images.

Re claim 12: The combination of Toyoda and Seok teaches all the limitations of claim 1 as previously discussed.

However, Hobson teaches the sampler is to divide an image into image blocks and to compute the luminances of said image blocks (col 2, line 64 - col 3, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Toyoda and Seok references to divide an image into blocks and compute the luminances of said image blocks, as taught by Hobson, for the purpose of providing image watermarking and easy recovery of watermarked images.

### ***Conclusion***

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to

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specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the text of the passage taught by the prior art or disclosed by the examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARREN SCHWARTZ whose telephone number is (571)270-3850. The examiner can normally be reached on 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571)272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S./

Examiner, Art Unit 2435

/Kimyen Vu/

Supervisory Patent Examiner, Art Unit 2435